



M1

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M1 – SECTION B**

B271B

Candidates answer on the question paper.

OCR supplied materials:
None

Other materials required:

- Geometrical instruments
- Tracing paper (optional)
- Electronic calculator

**Tuesday 21 June 2011
Afternoon**

Duration: 30 minutes



| | | | |
|-----------------------|--|----------------------|--|
| Candidate forename | | Candidate surname | |
|-----------------------|--|----------------------|--|

| | | | | | | | | | | | |
|---------------|--|--|--|--|--|--|------------------|--|--|--|--|
| Centre number | | | | | | | Candidate number | | | | |
|---------------|--|--|--|--|--|--|------------------|--|--|--|--|

INSTRUCTIONS TO CANDIDATES

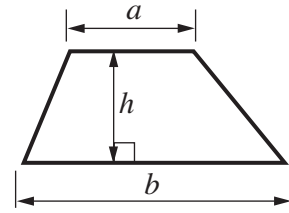
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer **all** the questions.
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

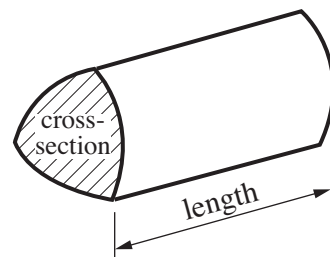
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 8.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **12** pages. Any blank pages are indicated.

Formulae Sheet

Area of trapezium = $\frac{1}{2} (a + b)h$



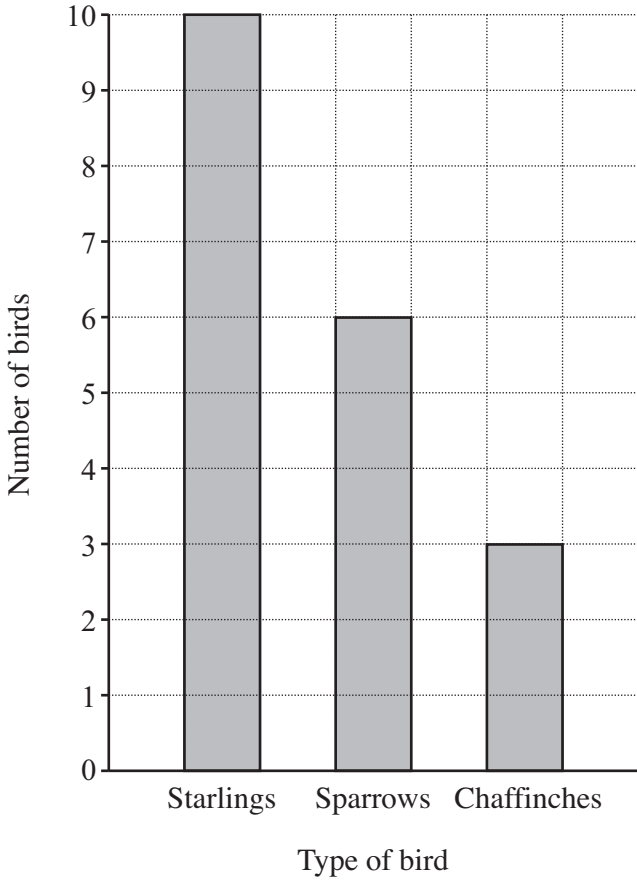
Volume of prism = (area of cross-section) \times length



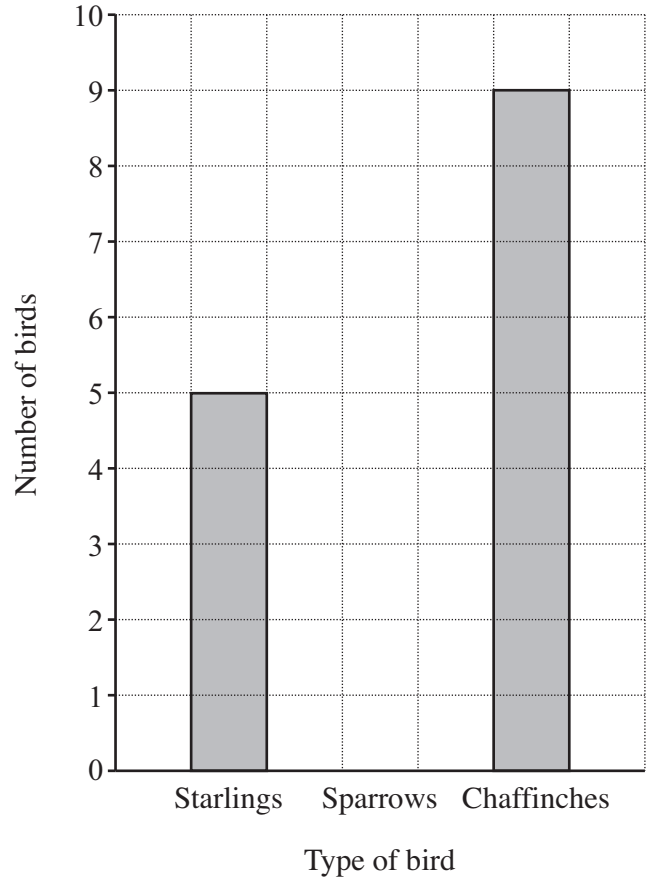
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8 Danny puts sunflower seeds and peanuts in his garden for the birds to eat. These graphs show how many of each of three different types of birds visited the foods.

Sunflower seeds



Peanuts



(a) Danny saw 7 Sparrows visiting the peanuts.

Show this on the chart.

[1]

(b) Which type of food did the Chaffinches prefer?

(b) [1]

(c) How many Starlings visited the sunflower seeds?

(c) [1]

(d) Which type of food was more popular?
Show how you decide.

..... because

..... [2]

- 9 (a) Transport for London records information about items left on trains and buses. Here are the numbers of some of the items.

| Mobile phones | Keys | Spectacles | Cameras and jewellery | Pairs of gloves |
|---------------|------|------------|-----------------------|-----------------|
| 3727 | 7903 | 5885 | 8008 | 3272 |

Put these numbers in order, starting with the highest.

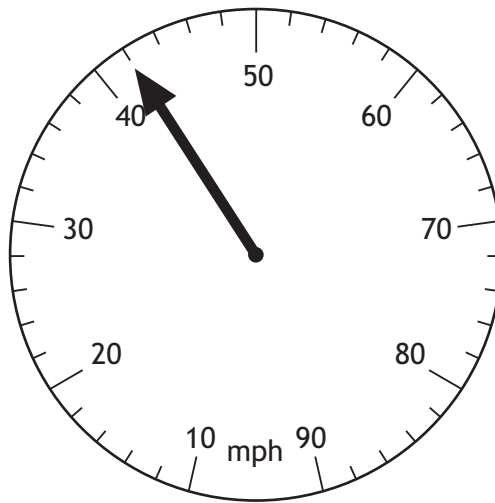
..... [2]
highest

- (b) 7903 keys were left.

Write 7903 in words.

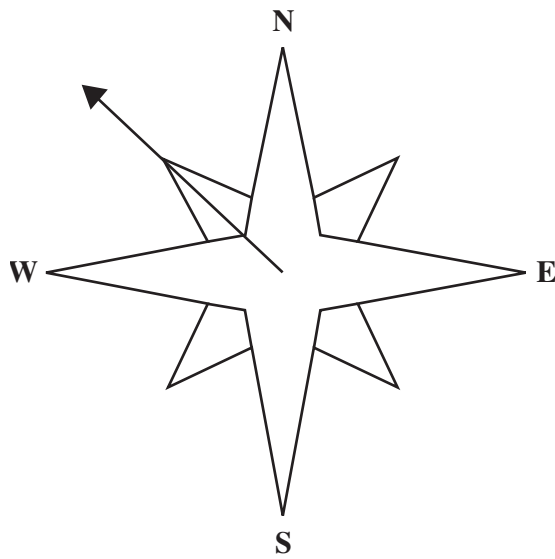
..... [1]

10 (a) What speed in miles per hour (mph) is shown on this speedometer?



(a) mph [1]

(b) What compass direction is shown by the arrow?



(b) [1]

11 This is a group of three bricks.



The group has one white and two grey bricks.

(a) Paul joins two of these groups together, end-to-end.



How many grey bricks does Paul use?

(a) [1]

(b) Quincy joins five groups of bricks together.

(i) How many grey bricks does he use?

(b)(i) [1]

(ii) How many white bricks does he use?

(ii) [1]

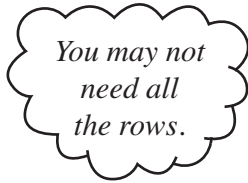
(c) Rita joins 50 groups of bricks together.

Explain how to work out how many grey bricks she uses.

.....
..... [1]

- 12 Alan and Cora are trying to choose names for their baby daughter. They want to use all of the three names Elena, Hattie and Bella. They are not sure what order to put the three names in.

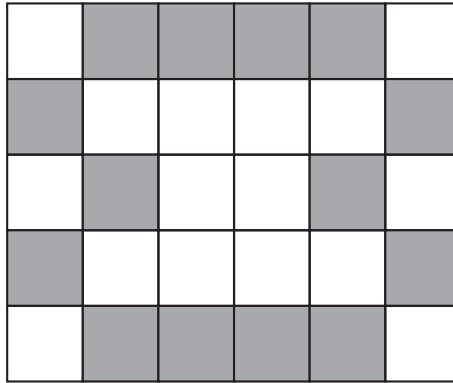
Complete the table showing all the possible orders.
The first one has been done for you.



| Elena | Hattie | Bella |
|-------|--------|-------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

[2]

- 13 Anya decides to tile the kitchen wall behind her work surface. She makes this pattern using grey tiles and white tiles.



- (a) How many grey tiles are there in this pattern?

(a) [1]

- (b) Each tile has an area of 100 cm^2 .

What is the total area of the grey tiles used in this pattern?

(b) cm^2 [2]

9

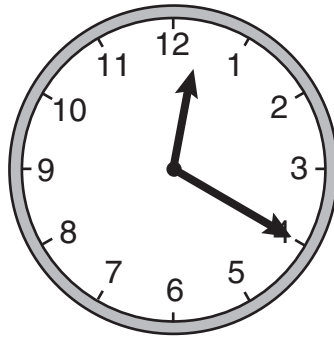
- (c) She needs six of these patterns to tile her wall.
Grey tiles are sold in boxes of 12.

How many boxes of grey tiles will she need?

(c) [3]

TURN OVER FOR QUESTION 14

14 Peter arrives at Kingston station at this time.



His train leaves at 1245.

(a) How long does Peter wait at Kingston station?

(a) minutes [2]

(b) The train journey to Shepperton lasts 25 minutes.

What time does the train arrive at Shepperton?

(b) [1]

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